

Nervilia punctata (Orchidaceae) – A new record for Northeast India^a

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Abstract

Nervilia punctata is reported for the first time from the state Mizoram which forms a new distributional record for Northeast India. A detailed taxonomic description, drawing and photographs are provided.

Résumé

Nervilia punctata (Orchidaceae – nouvel enregistrement pour l'Inde Nord-est – *Nervilia punctata* est signalée pour la première fois dans l'état Mizoram, ce qui constitue un nouvel enregistrement de l'espèce pour le nord-est de l'Inde. Une description détaillée, accompagnée d'un dessin et de photographies, est proposée.

Introduction

The genus *Nervilia* Commerson ex Gaudichaud-Beaupré comprises approximately 71 taxa distributed in tropical, subtropical and warm temperate regions of Africa, Asia, Australia and the Southwest Pacific Islands (Pridgeon *et al.*, 2005; Govaerts *et al.*, 2013). The members of the genus are terrestrial herbs mostly growing in small colonies. The dormant tuber, when ready for new growth, produces an inflorescence, and when the flowers have withered the same tuber produces a leaf (Seidenfaden & Wood, 1992). In India, it is represented by 16 species (Misra, 2007; Jalal *et al.*, 2012). Hitherto, only 10 species of *Nervilia* have been reported from Northeast India.

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During the recent survey in Murlen National Park, Mizoram (Fig. 1) in the month of April 2013 the authors came across a small population of a flowering terrestrial orchid. Some specimens were collected and transplanted in pots for further study of the vegetative parts. The leaves started to appear by the end of May and were fully mature by the middle of June. The plants were identified as *Nervilia punctata* (Blume) Makino, a plant hitherto unknown in Northeast India. Specimens were deposited in the Herbarium of the Botanical Survey of India, ERC, Shillong (ASSAM). A detailed description of the species, as well as a drawing and photographs are provided (Fig. 2 & 3).

Taxonomic description

Nervilia punctata (Blume) Makino, *Botanical Magazine* 16: 199 (1902); Seidenfaden & Smithinand, *Orchids of Thailand* 67. (1959); R.E.Holttum, *Revised flora of Malaya, Volume 1: Orchids of Malaya* 3:106 (1964); C.A.Backer & R.C.Bakhuizen van den Brink, *Flora of Java* 3: 261 (1968); Seidenfaden, *Dansk Botanisk Arkiv* 32: 151, t.93 (1978).

Pogonia punctata Blume, *Museum Botanicum* 1: 32 (1849).

Aplostellis punctata (Blume) Ridley, *The Flora of the Malay Peninsula* 4: 204 (1924).

Terrestrial tuberiferous herb, 5-6 cm tall. Tuber whitish, globose to subglobose, 10-15 mm in diameter, 3-noded with stolons. Leaf solitary, emerging just after flowering, dark green, suborbicular-ovate, 3-4 cm across, glabrous, 7-nerved, indistinctly crenulate, apex acute, base cordate. Petiole 1.2-1.5 cm long, single tubular sheath at the base. Inflorescence, 4-6 cm long, lower portion olive green and upper brownish green, 1-flowered; sheath 1, tubular, 13-16 × 2-3 mm, purplish tinged, 9-nerved; peduncle with 2 nodes. Floral bract, oblong, 5-6 × 1-1.5 mm, obtuse, without any prominent veins. Flower suberect, widely opened, 2.5-3 cm across, resupinate; pedicel and ovary 6-7 mm long, dark brown, tinged with green; ovary ovoid, 5-6 mm long. Sepals sub-similar, linear-lanceolate, acute, 3-nerved, greenish-brown flecks; dorsal sepal 12-15 × 1-2.5 mm, lateral ones 12-15 × 1-1.5 mm. Petals linear-lanceolate, slightly concave, 11-14 × 0.5-1.5 mm, acute, 1-nerved, greenish brown with brown flecks. Lip white, narrowly obovate, 12-13 mm long, 3-lobed near the middle; lateral lobes, 1-1.5 mm wide, acute, loosely shielding column on either sides; median

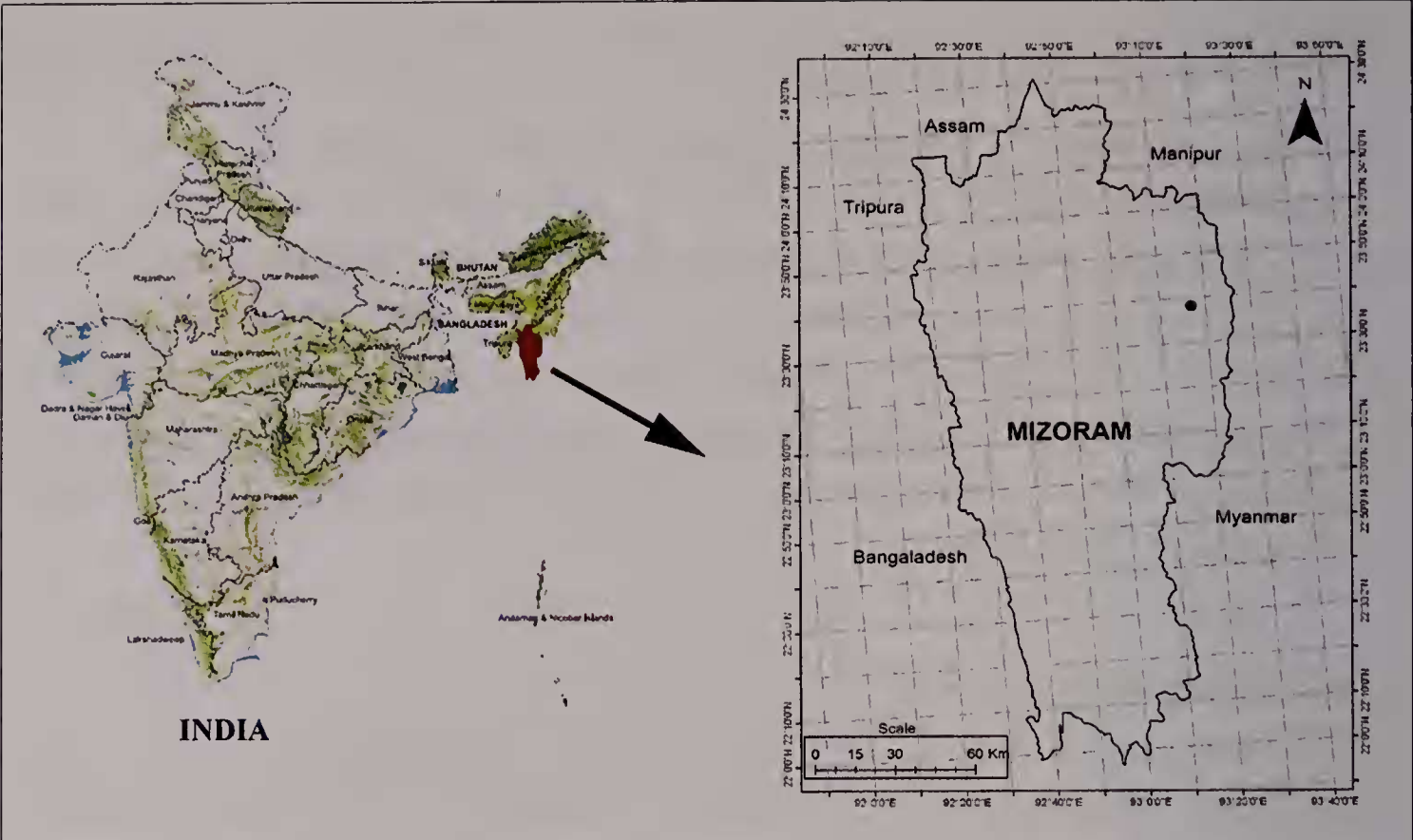


Fig. 1: Map showing the location of *Nervilia punctata* in Northeast India



Fig. 2: *Nervilia punctata*: habit showing flower and leaf

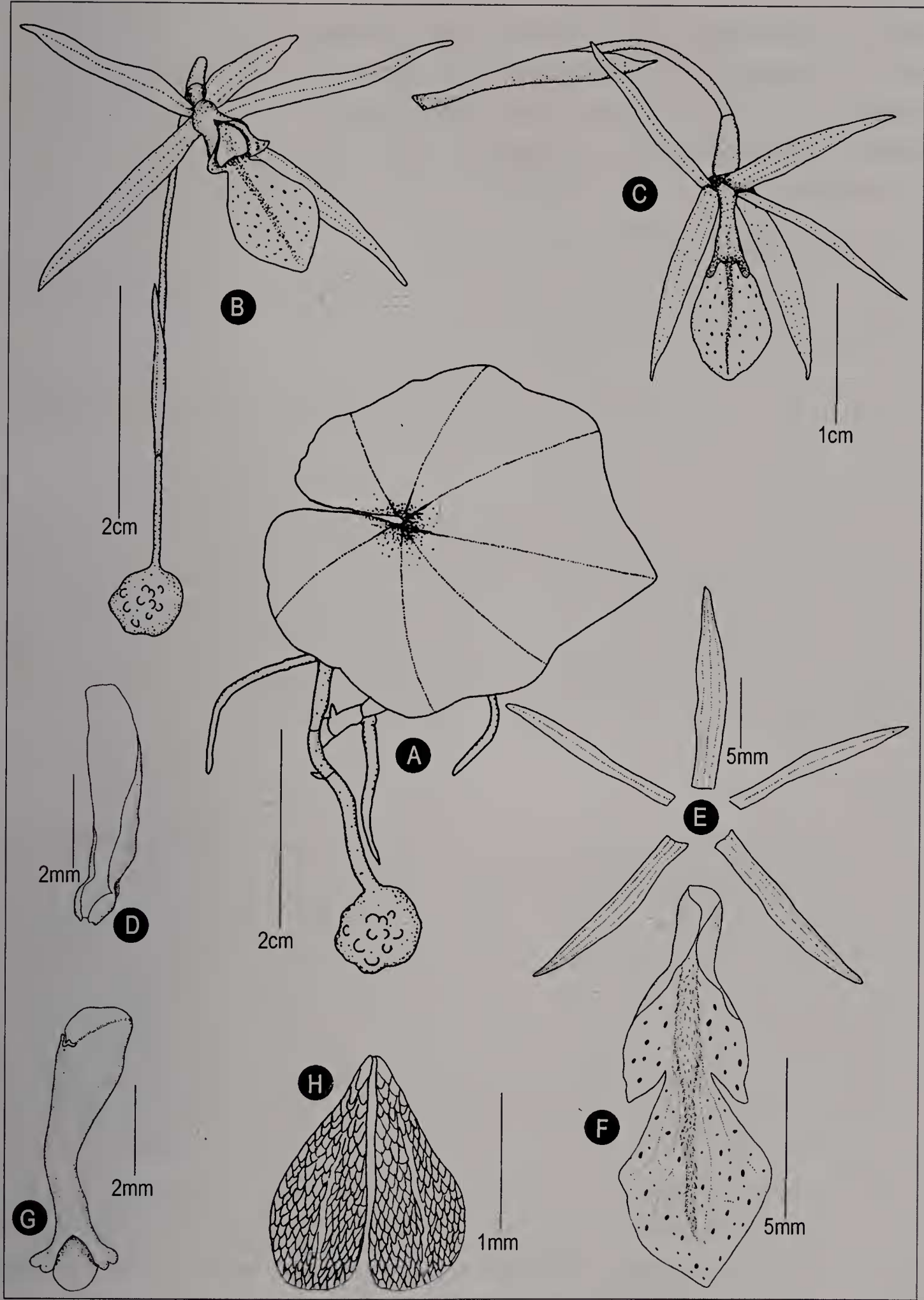


Fig. 3: A-H *Nervilia punctata*

A. Plant with leaf and tuber. B. Plant with inflorescence. C. A flower. D. Bract. E. Petals and sepals. F. Labellum. G. Column. H. Pollinia.

lobe, 8-9 × 4-5 mm, ovate or obovate, acute or obtuse apex, slightly reflexed, several irregular pink spots on surface; disk glabrous with one lamella, green from the base of hypochile to near the epichile usually covered with column. Column clavate, 5-6 mm long, upper stigma portion broad, white, glabrous, anther cap white. Pollinia 2, ovoid, yellow.

Flowering: March – April. *Leaf*: May – June.

Distribution: India (Odisha, Mizoram); Thailand, Vietnam, Malaysia, Indonesia, New Guinea and Fiji.

Specimens examined: Mizoram, Champhai, Murlen National Park, Chamdur, alt. 1775 m a.s.l., N 23° 37' 38.0" & E 93° 17' 23.2", R. Kumar *et al.* 128344, 10th April 2013 (in flower) and 128496, 20th June 2013 (in foliage).

Habitat & Ecology: Murlen National Park is located near the Myanmar border and vegetation is tropical semi-evergreen forests and montane subtropical forests. The plants were growing under the tropical semi-evergreen dense forest at an altitude of 1775 metres. a.s.l. The tubers were buried under humus rich soil. A small population of 12 individuals was observed in this habitat.

Notes

Nervilia punctata was reported from Nicobar Islands by Balakrishnan & Chakraborty (1980), as a new record for India. Being unaware of this, Misra (1982) also reported it as a new record for India from Odisha (erstwhile Orissa). Later, Misra (2007), in his work on *Orchids of Orissa*, treated his previous report of *Nervilia punctata* from Orissa under *Nervilia infundibulifolia* Blatter & McCann. However, he also mentioned that some biotypes from other localities of Odisha were different from the specimen of *Nervilia infundibulifolia* from Maharashtra and discussed their similarity with *Nervilia calcicola* A.F.G.Kerr and *Nervilia punctata*. Pending further study, he refrained from considering these plants as *Nervilia punctata*. Our plant shows resemblance with biotypes (SM133, SM159 and SM169) of Misra (2007) as they have a labellum that is widest at the distal end and that has a median lobe with a sub-acute apex and veinless floral bracts. Therefore these biotypes are *Nervilla punctata* and the occurrence of the species in Odisha is acceptable. However the report of Nicobar by Balakrishnan & Chakraborty (1980) is unsustainable as the characters

illustrated in their publication do not match with *N. punctata*. The leaf morphology of *N. punctata* is also similar to that of *N. alishanensis* T.C.Hsu, S.W.Chung & C.M.Kuo (Taiwan), *N. nipponica* Makino (Japan), *N. gracilis* Averyanov from Vietnam and *N. mackinnonii* (Duthie) Schlechter from the western Himalayas, but the shape of their labellum is clearly different as compared with the available descriptions and illustrations (Makino, 1909; Duthie, 1902; 1906; Seidenfaden, 1978; Averyanov, 2011; Hsu *et al.*, 2012). However there is a distinct need for a thorough assessment of patterns of variation in floral form between populations based on field and molecular phylogenetic studies to better resolve true species numbers and relationships (Gale *et al.*, 2013).

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Literature cited

- Averyanov, L.V., 2011. *Nervilia gracilis* – A New Orchid Species from Northern Vietnam. *Taiwania* 56: 50-53.
- Balakrishnan, N.P. & P.Chakraborty, 1980 '1978'. Descriptive notes on some new or little known orchids of Nicobar Islands. *Bulletin of Botanical Survey of India* 20: 80-90.
- Duthie, J.F., 1902. Description of some new species of orchideae from North-west and central India. *Journal of the Asiatic Society of Bengal* 71: 37-45.
- Duthie, J.F., 1906. Orchids of North West Himalaya. *Annals of the Royal Botanic Garden Calcutta* 9: 81-211.
- Gale, S., S.Suddeez & S.Watthana, 2013. Studies in Asian *Nervilia* (Orchidaceae) III: *N. khaoyaica*, a new species from eastern Thailand. *Kew Bulletin* 68: 1-5.
- Govaerts, R., J.Dransfield, S.F.Jona, D.R.Hodel & A.Henderson, 2013. World Checklist of Orchidaceae. Facilitated by the Royal Botanic Gardens,

Kew. Published on the Internet; <http://apps.kew.org/wcsp/> Retrieved 2013-09-12.

Hsu, T.C., S.W.Chung & C.M.Kuo, 2012. Supplements to the Orchid Flora of Taiwan (VI). *Taiwania* 57: 271-277.

Jalal, J.S., P.Kumar & G.S.Rawat, 2012. *Nervilia pangteyana* sp. nov., a terrestrial orchid from western Himalaya, India. *Nordic Journal of Botany* 30: 407-411.

Makino, T. 1909. Observation on the flora of Japan. *Botanical Magazine Tokyo* 23: 134 -150.

Misra, S., 1982 '1980'. Additions to the Orchidaceous flora of Orissa. *Bulletin of Botanical Survey of India* 22: 147-156.

Misra, S., 2007. *Orchids of India, a glimpse*. Bishen Singh Mahendra Pal Singh, Dehradun, India.

Pridgeon, A.M., P.J.Cribb, M.W.Chase & F.N.Rasmussen, 2005. *Genera Orchidacearum, Vol. 4: Epidendroideae (Part I)*. Oxford University Press, Oxford.

Seidenfaden, G. & J.J.Wood, 1992. *The Orchids of Peninsular Malaysia and Singapore*. Olsen & Olsen, Fredensborg, Denmark.

Seidenfaden, G., 1978. Orchid genera in Thailand VI. Neottioideae Lindl. *Dansk Botanisk Arkiv* 32: 1-195.

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